



**Alcoa Wheel &  
Forged Products**

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Cleveland, OH 44105-3082 USA  
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OFFICE OF  
DEFECTS INVESTIGATION

April 21, 2003

03E-028 (1/4)

Kenneth Weinstein  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
400 Seventh St., S.W.  
Washington, D.C. 20590

**Ref: VOLUNTARY RECALL NOTIFICATION**

Dear Mr. Weinstein,

Pursuant to 49 CFR 573.5, Alcoa Wheel and Forged Products is notifying NHTSA that we are initiating a voluntary recall on certain forged aluminum 16" x 6" wheel part numbers, made by Alcoa for the after-market consumer and primarily used on 3/4- and one-ton pick-up trucks.

I am informing you that an item manufactured by Alcoa Inc., Alcoa Wheel & Forged Products business unit, may potentially contain a safety related defect. Some of these wheels are developing fatigue cracks in the outboard bead seat area causing air loss in the tires. If the user ignores the problem and refills the tires to maintain pressure, the cracks may propagate around the circumference of the wheel along the bead seat of the tire, causing the face of the wheel to separate from the rim.

Alcoa had previously initiated a recall on these identical wheel part numbers in 1998 under NHTSA Recall # 98E-039. We had originally believed the 1998 recall had been addressed with a process change that we had implemented in 1995. Therefore in 1998, we recalled all 16" x 6" after market wheels in the subject part numbers that had been manufactured prior to June 1996.

New wheel returns have now indicated that even though the process change did give Alcoa a better wheel, a design change implemented in 1999 was what corrected this particular product defect. We are now extending the wheels recalled under 98E-039, to include wheels manufactured from July 1996 to June 1999.

If you have any questions or comments, please contact me at (216) 841-6315.

Sincerely,

Richard L. Corliss  
Manager, Technology & Quality  
Alcoa Wheel and Forged Products  
1600 Harvard Avenue  
Cleveland, OH 44105

Phone: 216-841-6315  
E-mail: Richard.Corliss@alcoa.com

**DEFECT AND NONCOMPLIANCE INFORMATION REPORT**  
***Pursuant to 49 CFR §573.5***

1. **The manufacturer of the forged aluminum wheel is:**

Alcoa Inc. Alcoa  
Wheel and Forged Products Division  
1600 Harvard Avenue  
Cleveland, Ohio 44105

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2. **The item that potentially contains the defect is:**

Forged aluminum light truck wheels, size 16"x 6", manufactured from 6/1996 to 6/1999 and sold as aftermarket equipment. Specifically, Classic and LTS models which are typically used on full-ton pick-ups such as, Ford F-Series, General Motors GMC, Chevrolet, and Dodge Ram. These wheels are aftermarket products, and do not include any shipments to the original equipment manufacturers. The following model and part numbers are affected:

<u>Model</u>	<u>Part Number</u>
Classic	160231, 160232
	160241, 160242
	160291, 160292
	160301, 160302
LTS	160251, 160252
	160261, 160262
	160271, 160272

3. **The total number of wheels containing the defect is:**

50,432 wheels of all associated part numbers (Front, Rear, or Dual use) were sold between July 1996 and June 1999.

4. **The percentage of the wheels estimated to actually contain the defect is:**

100% of these part numbers have the potential of exhibiting this defect condition; however, the history of recent product returns indicates that only wheels on the steer axle are being affected in the field.

**5. The following is a description of the defect:**

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The preferred failure mode for these wheels provides for slow loss of air pressure alerting the consumer to the problem; however, some of the subject wheels are developing classic fatigue cracks initiating at multiple locations in the outboard bead seat area. Sometimes the consumer has ignored the air leakage problem by refilling the tire as necessary to maintain air pressure. Sometimes the tire has been able to maintain the integrity of the tire pressure by sealing the crack within the beadseat and thus preventing the wheel from leaking air. In these latter two circumstances, the cracks over time may propagate around the circumference of the wheel along the bead seat of the tire, causing the face of the wheel to separate from the remaining part of the wheel.

**6. The following is a chronology of all principal events that were the basis for the determination that the defect related to motor vehicle safety:**

While the incidence of these wheels being returned under Alcoa's normal five year warranty is no higher than with other models, the failure mode of some of the returned wheels may create a product safety issue. Historical data indicate a 5 year warranty return rate of ~0.24% for this whole family of 16"x 6" wheels, which is within a normal expectation of warranty returns over 5 years.

Since January 2001, Alcoa has had three incidents of a wheel separation from a vehicle due to the fatigue crack propagating around the wheel under the bead seat. None of these incidents has resulted in personal injury, but some have resulted in minor property damage.

In addition, during this period 17 wheels have been returned to our warranty center that had bead seat cracks that had resulted in loss of air in a wheel/tire assembly.

**7. The following is a description of the manufacturer's program for remedying the defect:**

A design change that added cross sectional thickness in the area of the bead seat was implemented across all 16" x 6" part numbers during the first half of 1999. This design change has eliminated this failure mode. All 16" x 6" after market wheels manufactured and sold since June 1999 do not have this failure mode, and are excluded from this recall effort. Affected wheels can be identified by the manufactured date stamped in the wheel. The manufactured date can be validated by the end customer without the need to remove the tire from the wheel.

We will attempt to directly notify any consumer who purchased a 16" x 6" after market wheel from the distributor/dealer network prior to June 1999. In addition, we will advertise in the appropriate trade magazines and trade shows to alert end-user

consumers that we may not be able to otherwise contact in direct mailing efforts. We will post this recall activity on Alcoa's internet sites such that the consumer can see or find the recall effort. (Note: since this is an aftermarket product, no OEM vehicle registration data is available for purchasers of this wheel.) The notification process to end users is expected to begin by May 31, 2003 utilizing information obtained from Alcoa records and information supplied to Alcoa from our dealers and distributors. Alcoa does not believe that any affected wheels remain in the distribution channel as inventory.

If a consumer observes a cracked wheel or a loss of air is observed, the consumer will be instructed to notify our Wheel Service Center for an immediate, no-cost exchange. Additionally any consumer request to replace 16x6 wheels under this recall, whether they observe a crack or whether the wheel is used in a steer axle application or not, will be honored by Alcoa.

The contact information for wheel replacement or consumer questions is as follows:

Alcoa Wheel Service Center  
P.O. Box 557  
Mauro Avenue  
Knox, PA 16232  
Phone 1-888-279-3055  
FAX 814-797-5797

The contact information for NHTSA is as follows:

Richard Corliss  
Manager, Technology & Quality  
Alcoa Wheel and Forged Products  
1600 Harvard Avenue  
Cleveland, Ohio 44105  
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E-mail: Richard.Corliss@alcoa.com